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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,214

05/05/2006

Shinji Imoto

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6004

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EXAMINER

DUBNOW, JOSHUA M

ART UNIT

PAPER NUMBER

2861

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,214	<b>Applicant(s)</b> IMOTO ET AL.	
	<b>Examiner</b> Joshua M. Dubnow	<b>Art Unit</b> 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 3-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

Receipt is acknowledged of applicant's amendment filed January 3, 2008.

Claim(s) 1-38 are pending, and an action on the merits is as follows.

Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Maki et al. (U.S. Publication # 2002/0126193)** in view of **Kuwabara et al. (JP2004-99280)**.

Considering **claim 1** and **claim 2**, Maki et al. discloses an image forming apparatus comprising a conveyance belt (14) that conveys a recording medium by attracting the medium by an electrostatic force generated by positive and negative electric charges applied (Figures 3, 5, paragraph 0133). A charger (19, 24) applies the electric charges alternately to the belt (Figures 3, 5), and a recording head (3) discharges droplets of liquid toward the medium being conveyed by the belt (Figure 2).

Maki et al. fails to explicitly disclose adjusting an amount of electric charge induced on the surface of the medium by the charges applied to the belt.

Regarding the “adjusting means for adjusting . . .”, this phrase will be interpreted as an invocation of 35 U.S.C. 112 sixth paragraph. Kuwabara et al. teaches a similar image forming apparatus with a means for adjusting the amount of electric charges used with a conveyance belt and therefore induced on the surface of the recording medium (paragraphs 0032, 0035, 0036) in reference to a variety of factors.

Although Kuwabara et al. does not explicitly disclose that the adjusting means adjust the amount of charges specifically according to the resistance value of a detection of the surface resistance of the recording medium, Kuwabara et al. does disclose adjusting the charges according to other factors of the recording medium such as thickness, surface condition, and others (paragraph 0032).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Maki et al. with the teaching of Kuwabara et al. so an optimal amount of charge is induced on the recording medium. This allows the apparatus to hold the medium to the belt reliably and efficiently while also not interfering with the liquid drop discharge and release of the medium after the printing process is complete. It would also have been obvious to one of ordinary skill in the art to adjust the amount of charges induced on the medium according to the resistance value and detected surface resistance of the medium. Kuwabara et al. discloses a number of different variables that can be used to adjust the charge amount and any other kind of variable including surface resistance can easily be used as well with the apparatus and process of image forming.

***Response to Arguments***

3. Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection. Applicant states that in the system of Kuwabara, the charge is applied to the paper and not directly to the conveyance belt and that direct current power is used to supply the charge. However, in the apparatus of Maki et al., the charge is directly applied to the conveyance belt, and it is applied with alternating positive and negative electric charges. Therefore, the cited references disclose and teach the claimed limitations of the invention.

***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua M. Dubnow whose telephone number is (571)270-1337. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LUU MATTHEW/  
Supervisory Patent Examiner, Art Unit 2861

/Joshua M Dubnow/  
Examiner, Art Unit 2861

April 8, 2008